



INTEGRAL UNIVERSITY, LUCKNOW
INTEGRAL INSTITUTE OF ALLIED HEALTH SCIENCES & RESEARCH
DEPARTMENT OF PARAMEDICAL SCIENCES

MASTERS OF MEDICAL RADIOLOGICAL IMAGING SCIENCES
(MMRIS)

SYLLABUS AND EVALUATION SCHEME
YEAR/ SEMESTER
II/III & II/IV
&
PEOs-POs-PSOs



Integral University, Lucknow
Department of Paramedical Sciences
Study and Evaluation Scheme

Program: MMRIS

Semester-III

S. N.	Course code	Course Title	Type of Paper	Period Per hr/week/sem			Evaluation Scheme				Sub. Total	Credit	Total Credits
				L	T	P	CT	TA	Total	ESE			
THEORIES													
1	RS601	QA and QC in Diagnostic Radiology and Imaging	Core	3	1	0	40	20	60	40	100	3:1:0	4
2	RS602	Interventional & Nuclear Medicine Techniques	Core	3	1	0	40	20	60	40	100	3:1:0	4
3	RS603	Research Methodology and Biostatics	Core	3	1	0	40	20	60	40	100	3:1:0	4
PRACTICAL													
1	RS604	Synopsis- Project Work	Core	0	3	0	50	50	100	00	100	0:3:0	3
2	RS605	Residency - III Lab	Core	0	0	10	40	20	60	40	100	0:0:5	5
3	RS606	QA and QC in Diagnostic Radiology and Imaging - Lab	Core	0	0	8	40	20	60	40	100	0:0:4	4
4	RS607	Interventional & Nuclear Medicine Techniques - Lab	Core	0	0	8	40	20	60	40	100	0:0:4	4
Total				09	06	26	290	170	460	240	700	28	28

S. N.	Course code	Course Title	Type of Paper	Attributes						United Nation Sustainable Development Goal (SDGs)	
				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value		Professional Ethics
THEORIES											
1	RS601	QA and QC in Diagnostic Radiology and Imaging	Core	√	√	√			√	√	3,4
2	RS602	Interventional & Nuclear Medicine Techniques	Core	√	√	√	√		√	√	3,4
3	RS603	Research Methodology and Biostatics	Core	√	√	√	√		√	√	3,4
PRACTICAL											
1	RS604	Synopsis- Project Work	Core	√	√	√			√	√	3,4
2	RS605	Residency - III Lab	Core	√	√	√	√		√	√	3,4
3	RS606	QA and QC in Diagnostic Radiology and Imaging - Lab	Core	√	√	√	√		√	√	3,4
4	RS607	Interventional & Nuclear Medicine Techniques - Lab	Core	√	√	√	√		√	√	3,4

L: Lecture **T:** Tutorials **P:** Practical **CT:** Class Test **TA:** Teacher Assessment **ESE:** End Semester Examination,
 AE= Ability enhancement, DSE- Discipline Specific Elective, **Sessional Total:** Class Test + Teacher Assessment **Subject Total:** Sessional Total + End Semester Examination (ESE)



Integral University, Lucknow
Department of Paramedical Sciences
Study and Evaluation Scheme

Program: MMRIS

Semester-IV

S. N.	Course code	Course Title	Type of Paper	Period Per hr/week/sem			Evaluation Scheme				Sub. Total	Credit	Total Credits
				L	T	P	CT	TA	Total	ESE			
THEORIES													
1	RS608	Advanced CT, MRI & USG	Core	3	1	0	40	20	60	40	100	3:1:0	4
2	RS609	Patient Care in Diagnostic Radiology	Core	3	1	0	40	20	60	40	100	3:1:0	4
PRACTICAL													
1	RS610	Seminar	Core	0	3	0	50	50	100	00	100	0:3:0	3
2	RS611	Residency - IV Lab	Core	0	0	10	40	20	60	40	100	0:0:5	5
3	RS612	Advanced CT, MRI & USG Lab	Core	0	0	8	40	20	60	40	100	0:0:4	4
4	RS613	Thesis/Dissertation	Core	0	10	0	40	20	60	40	100	0:10:0	10
Total				06	15	18	250	150	400	200	600	30	30

S. N.	Course code	Course Title	Type of Paper	Attributes						United Nation Sustainable Development Goal (SDGs)	
				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value		Professional Ethics
THEORIES											
1	RS608	Advanced CT, MRI & USG	Core	√	√	√	√		√	√	3,4
2	RS609	Patient Care in Diagnostic Radiology	Core	√	√	√	√		√	√	3,4
PRACTICAL											
1	RS610	Seminar	Core	√	√	√			√	√	3,4
2	RS611	Residency - IV Lab	Core	√	√	√	√		√	√	3,4
3	RS612	Advanced CT, MRI & USG Lab	Core	√	√	√	√		√	√	3,4
4	RS613	Thesis/Dissertation	Core	√	√	√	√		√	√	3,4

L: Lecture **T:** Tutorials **P:** Practical **CT:** Class Test **TA:** Teacher Assessment **ESE:** End Semester Examination,
AE= Ability enhancement, **DSE-** Discipline Specific Elective, **Sessional Total:** Class Test + Teacher Assessment **Subject Total:** Sessional Total + End Semester Examination (ESE)

**MASTERS OF MEDICAL RADIOLOGICAL IMAGING SCIENCES
(MMRIS)**



**Program Educational Outcomes
(PEOs)**

Program Educational Outcomes (PEOs)

The educational goals of the curriculum reflect the knowledge, skills, and behaviors expected of program graduates. The graduates of the Integral University MMRIS program will be expected to:

PE01:	Be advanced leaders in the profession.
PE02:	Be compassionate, caring healthcare professionals.
PE03:	Be eligible, well-prepared, and able to sit for and pass the credentialing examination.
PE04:	Have immediate job placement within six months of graduation.
PE05:	Work in advanced imaging fields and sit for advanced imaging Examinations.
PE06:	Identify with and contribute to the aims and ideals of the profession.
PE07:	Practice in an ethical and legal manner.

**MASTERS OF MEDICAL RADIOLOGICAL IMAGING SCIENCES
(MMRIS)**



**PROGRAMME OUTCOMES
(POs)**

PROGRAMME OUTCOMES (POs)

PROGRAMME OUTCOMES (POs) and their Attributes: -

Radio imaging Graduates will be able to-

PO-1:	Understanding ways of functioning effectively as an individual independently and as a member in a diverse team in multidisciplinary settings. (Attitude)
PO-2:	Understanding requirements of continuing education as a function of growth and maintenance of professional competence. (Lifelong learning)
PO-3:	Understanding environmental consciousness and societal concerns in achieving sustainable development. (Environment and Sustainability)
PO-4:	Applying computer skills in the health care system and taking entrepreneurial decisions. (Entrepreneurship)
PO-5:	Applying knowledge to assess societal, health, safety and legal issues related to professional practice. (Social interaction & effective citizenship)
PO-6:	Applying systematized problem-solving techniques to identify and correct procedural errors to verify the accuracy of laboratory results obtained. (Problem analysis and solving)
PO-7:	Applying appropriate techniques, resources and tools with an understanding of limitations. (Technology savvy/usage)
PO-8:	Developing the ability towards ethical as well as critical thinking. (Critical thinking)
PO-9:	Executing professional conduct and interpersonal communicational skills effectively with society at large. (Communication)
PO-10:	Have the technical ability to correctly repeat images, when the quality is not adequate for diagnostics.
PO-11:	Demonstrate radiation safety for self, staff, and patients as set forSh by the ALARA standards.
PO-12:	Demonstrate an understanding of advanced multiple imaging modalities and the need for lifelong learning.

MASTERS OF MEDICAL RADIOLOGICAL IMAGING SCIENCES (MMRIS)



Program Specific Outcomes (PSOs)

**MASTERS OF MEDICAL RADIOLOGICAL IMAGING SCIENCES
(MMRIS)
PROGRAMME SPECIFIC OUTCOME (PSOs)**

The aim of the course is to provide comprehensive, training to the students that prepare them for providing a quality diagnosis of the patients so that at the end of the course he/she will be able to perform the following:

PSO1:	Understanding the basic concepts, and theories of applied sciences (physics, chemistry, Anatomy, physiology, biochemistry, pathology) relevant to radiological imaging techniques.
PSO2:	Remembering the relationship between physics, radiology & modern imaging.
PSO3:	Understanding provisions for radiation safety by various national & international regulatory bodies and applying quality assurance measures.
PSO4:	Safety procedures and maintenance of radiological equipment.
PSO5:	Operating all radiological and imaging equipment independently and performing the image processing in X-Ray, Fluoroscopy, Computed Tomography, Dual Energy X-Ray Absorptiometry (DEXA), Mammography, Digital Subtraction Angiography, Magnetic Resonance Imaging, Ultrasonography, and Nuclear Medicine.